

**WHAT IS CLAIMED IS:**

1. A map information processing device for displaying a current position overlaid onto a map on a display, comprising:
  - a current position information acquiring section that acquires a current position
  - 5 information for the current position;
  - a matching data acquiring section that acquires a matching data including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a
  - 10 road with the point information and the segment information;
  - a correction section that corrects the current position information so that the current position is on the road represented by the point information and the segment information of the matching data; and
  - a display controller that displays the road based on the point information and the
  - 15 segment information of the matching data on the display and overlays the current position corrected by the correction section onto the displayed road on the display.
2. The map information processing device according to claim 1, further comprising:
  - a display data acquiring section that acquires a display data including an element
  - data for an element constituting a map of a predetermined area corresponding to the
  - 20 matching data,
  - wherein the display controller displays an element of the map excluding the road displayed based on a road information based on the display data.
3. The map information processing device according to claim 2,
  - wherein the matching data has a plurality of matching mesh information divided
  - 25 into predetermined areas,
  - wherein the display data has a plurality of display mesh information divided into predetermined areas, and
  - wherein the display controller displays the current position overlaid onto the map based on the matching mesh information including the point information and the segment

information, each of which generates the road information representing the road on which the corrected current position is overlaid on the display, and displays the map for areas other than the areas represented by the matching mesh information based on the display mesh information.

- 5     4.       The map information processing device according to any one of claims 1, wherein the matching data has a line block information including an information for the road arrangement associated with the plurality of the segment information that represent one road, and

10       wherein the display controller uses the information for the road arrangement in the line block information to display the road and displays the map on the display.

5.       The map information processing device according to any one of claims 1, wherein the display controller generates a polyline connecting the point information, and displays the road based on the polyline on the display.

6.       The map information processing device according to any one of claims 1 for  
15       distributing the map information over a network,

      wherein the map information has the matching data including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, and the segment information that has the unique segment information and connects the pair of point information, and representing the road  
20       with the point information and the segment information, and the display data including the element data for the element constituting the map of the predetermined area corresponding to the matching data,

      the map information processing device, further comprising:

- a request information recognizer that recognizes a request information for  
25       requesting the distribution of at least one of the matching data and the display data; and

      a delivery controller that distributes at least one of the matching data and the display data over the network based on the request information recognized by the request information recognizer.

7.       The map information processing device according to claim 6,

wherein the element data of the display data has a road element data for displaying the road and a secondary element data for displaying an element constituting a map excluding the road, and

5 wherein the delivery controller distributes only the secondary element data as the display data for the area corresponding to the matching data when the request information recognizer recognizes that the request information includes the matching data and the display data for the area corresponding to the requested matching data.

8. The map information processing device according to claim 6, wherein the request information requests the distribution of the map information to be used to provide the  
10 traveling state of a movable body.

9. The map information processing device according to any one of claims 1 for distributing the map information over the network and providing the traveling state of a movable body with use of the map information,

15 wherein the map information has the matching data including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, the segment information that has the unique segment information and connects the pair of point information, representing the road with the point information and the segment information and including the plurality of matching mesh information divided into predetermined areas, and the display data including the  
20 element data for the element constituting the map of the predetermined area corresponding to the matching data,

the map information processing device, further comprising:

a storage for storing the map information;

25 an information acquiring section that acquires the current position information for the current position of the movable body and a destination information for a destination to which the movable body travels;

a search section that searches a travel route on which the movable body travels with use of the matching data based on the current position information and the destination information; and

a delivery controller that distributes the matching mesh information including the point information and the segment information that represent the road corresponding to the searched travel route and the display mesh information corresponding to the area other than the area represented by the matching mesh information together with information for the travel route over the network.

10. The map information processing device according to claim 9,

wherein the element data of the display data has a road element data for displaying the road and a secondary element data for displaying an element consisting of a map excluding the road, and

wherein the delivery controller also distributes the secondary element data of the display data for the area corresponding to the matching mesh information to be distributed.

11. The map information processing device according to any one of claims 1, further comprising:

a map information acquiring section that acquires at least the point information out of the map information from a recording medium that stores the map information including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, and the segment information that has the unique segment information and connects the pair of point information, and representing the road with the point information and the segment information, the point information further having a flag information that shows a relation of the point information with other point information according to the determination whether the represented points are identical or not and represents the road arrangement; and

a coordinates matching section that recognizes the relation of the point information with other point information based on the flag information of the point information acquired by the map information acquiring section and recognizes the road arrangement.

12. The map information processing device according to claim 11, comprising a

storage having a recording medium that stores the map information and a reading section that reads the map information stored in the recording medium, the map information including the plurality of point information that has the coordinates information and the unique point information and represents predetermined points, and the segment information that has the unique segment information and connects the pair of point information, and representing the road with the point information and the segment information, the point information further having the flag information that shows the relation of the point information with other point information according to the determination whether the represented points are identical or not and represents the road arrangement.

13. The map information processing device according to any one of claims 1, wherein the map information processing device performs a processing on the map information being stored in a storage, including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, and the segment information that has the unique segment information and connects the pair of point information, and representing the road with the point information and the segment information, and

wherein the point information has a flag information showing a relation with other point information according to the determination whether the represented points are identical or not and representing the road arrangement;

the map information processing device, further comprising:

a map information acquiring section that acquires at least the point information out of the map information; and

a coordinates matching section that recognizes the relation of the point information with other point information based on the flag information of the point information acquired by the map information acquiring section and recognizes the road arrangement.

14. The map information processing device according to claim 13, comprising a storage that stores the map information, the map information including the plurality of

point information that has the coordinates information and the unique point information and represents the predetermined points, and the segment information that has the unique segment information and connects the pair of point information, and representing the road with the point information and the segment information, the point information further  
5 having the flag information that shows the relation of the point information with other point information according to the determination whether the represented points are identical or not and represents the road arrangement.

15. The map information processing device according to any one of claims 11, wherein the coordinates matching section recognizes the relation of the point information  
10 as the coordinates information of the point information acquired by the map information acquiring section are identical based on the flag information.

16. The map information processing device according to any one of claims 13, wherein the coordinates matching section recognizes the relation of the point information  
15 as the coordinates information of the point information acquired by the map information acquiring section are identical based on the flag information.

17. The map information processing device according to any one of claims 11, wherein the coordinates matching section recognizes that the road arrangement is still  
continuing, the road being represented by the different point information connected with the different link, by recognizing that the different point information represents the  
20 identical point.

18. The map information processing device according to any one of claims 13, wherein the coordinates matching section recognizes that the road arrangement is still  
continuing, the road being represented by the different point information connected with the different link, by recognizing that the different point information represents the  
25 identical point.

19. The map information processing device according to any one of claims 11, further comprising a search section that searches the travel route based on the road arrangement recognized by the coordinates matching section.

20. The map information processing device according to any one of claims 13,

further comprising a search section that searches the travel route based on the road arrangement recognized by the coordinates matching section.

21. A map information processing system, comprising:

5 a terminal unit including a display for displaying a current position overlaid onto a map; and

a map information processing device, a map information processing device being connected to the terminal unit over a network in a manner capable of sending/receiving various information

the device, comprising:

10 a current position information acquiring section that acquires a current position information for the current position;

a matching data acquiring section that acquires a matching data including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information;

15

a correction section that corrects the current position information so that the current position is on the road represented by the point information and the segment information of the matching data; and

20 a display controller that displays the road based on the point information and the segment information of the matching data on the display and overlays the current position corrected by the correction section onto the displayed road on the display.

22. A map information processing system for displaying a current position overlaid onto a map on a display, comprising:

25 a terminal unit including a current position information generating section and the display, the current position information generating section generating a current position information for the current position; and

a server unit including a storage that stores a matching data including a plurality of point information that has a coordinates information and a unique point information and

represents predetermined points and a segment information that has a unique segment information and connects the pair of point information and representing a road with the point information and the segment information, a current position information acquiring section that acquires the current position information from the terminal unit over a  
 5 network, a correction section that corrects the current position information so that the current position is on the road represented by the point information and the segment information of the matching data, and a transceiver that outputs the matching data and the corrected current position information to the terminal unit over the network,

wherein the terminal unit displays the road based on the point information and the  
 10 segment information of the matching data acquired from the server unit on the display and overlays the current position information acquired from the server unit and corrected onto the displayed road on the display.

23. A map information processing system for displaying a current position overlaid onto a map on a display, the system comprising:

15 a server unit provided with a storage that stores a matching data including a plurality of point information that has a coordinates information and a unique point information and represent predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information; and

20 a terminal unit connected to the server unit over a network in a manner capable of sending/receiving various information, the terminal unit including the display, a current position information generating section that generates a current position information for the current position, a terminal transceiver that acquires the matching data from the server unit over the network, a correction section that corrects the current position information so  
 25 that the current position is on the road represented by the point information and the segment information of the matching data, and a display controller that displays the road based on the point information and the segment information of the matching data on the display and overlays the corrected current position information onto the displayed road on the display.



24. A map information processing system comprising:

a map information processing device for distributing a map information over a network,

wherein the map information has a matching data including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, and a display data including an element data for an element constituting a map of a predetermined area corresponding to a matching data,

the map information processing device, further comprising:

a request information recognizer that recognizes a request information for requesting the distribution of at least one of the matching data and the display data; and

a delivery controller that distributes at least one of the matching data and the display data over the network based on the request information recognized by the request information recognizer,

A map information processing system, further comprising:

a terminal unit connected to the map information processing device over a network in a manner capable of sending/receiving information and provided with a transceiver that sends a request information to the map information processing device over the network and receives the distributed map information.

25. The map information processing system according to claim 22 for distributing the map information from the server unit storing the map information to the terminal unit connected to the server unit that stores the map information over the network in a manner capable of sending/receiving various information,

wherein the server unit has a storage that stores the map information that has the matching data including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, the segment information that has the unique segment information and connects the pair of

point information, and representing the road with the point information and the segment information, and a display data including an element data for an element constituting a map of a predetermined area corresponding to the matching data, a request information recognizer that recognizes a request information requesting the distribution of at least one  
 5 of the matching data and the display data, and a delivery controller that distributes at least one of the matching data and the display data over the network based on the request information recognized by the request information recognizer, and

wherein the terminal unit has a request information generating section that generates the request information and a transceiver that sends the request information to  
 10 the server unit over the network and receives the map information distributed from the server unit.

26. The map information processing system according to claim 23 for distributing the map information from the server unit storing the map information to the terminal unit connected to the server unit that stores the map information over the network in a manner  
 15 capable of sending/receiving various information,

wherein the server unit has a storage that stores the map information that has the matching data including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, the segment information that has the unique segment information and connects the pair of  
 20 point information, and representing the road with the point information and the segment information, and a display data including an element data for an element constituting a map of a predetermined area corresponding to the matching data, a request information recognizer that recognizes a request information requesting the distribution of at least one  
 25 one of the matching data and the display data, and a delivery controller that distributes at least one of the matching data and the display data over the network based on the request information recognized by the request information recognizer, and

wherein the terminal unit has a request information generating section that generates the request information and a transceiver that sends the request information to the server unit over the network and receives the map information distributed from the

server unit.

27. A map information processing system, comprising:

a map information processing device for distributing a map information over the network and providing the traveling state of a movable body with use of the map information,

wherein the map information has a matching data including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, a segment information that has a unique segment information and connects the pair of point information, representing a road with the point information and the segment information and including a plurality of matching mesh information divided into predetermined areas, and a display data including an element data for an element constituting a map of a predetermined area corresponding to a matching data,

the map information processing device, further comprising:

a storage for storing the map information;

an information acquiring section that acquires a current position information for a current position of the movable body and a destination information for a destination to which the movable body travels;

a search section that searches a travel route on which the movable body travels with use of the matching data based on the current position information and the destination information; and

a delivery controller that distributes the matching mesh information including the point information and the segment information that represent the road corresponding to the searched travel route and the display mesh information corresponding to the area other than the area represented by the matching mesh information together with information for the travel route over the network,

the system, further comprising:

a terminal unit connected to the map information processing device over the network in a manner capable of sending/receiving information, the terminal unit including

an information generating section that generates a current position information and a destination information of the movable body, a display capable of displaying the map information and a display controller that displays a road based on a matching data of the map information distributed from the map information processing device and information  
5 for a travel route, and also displays information excluding the road based on a display data.

28. The map information processing system according to claim 22 for displaying the traveling state of the movable body on the display of the terminal unit connected to the server unit that stores the map information over the network in a manner capable of  
10 sending/receiving various information,

wherein the map information has the matching data including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, the segment information that has the unique segment information and connects the pair of point information, representing the road with  
15 the point information and the segment information, and including a plurality of matching mesh information divided into predetermined areas, and a display data including an element data for an element constituting a map of a predetermined area corresponding to the matching data,

wherein the terminal unit has the display, a current position information  
20 generating section that generates a current position information for a current position of the movable body, a destination information generator that generates a destination information for a destination to which the movable body travels, and

wherein the server unit has a storage that stores the map information, an information acquiring section that acquires the current position information and the  
25 destination information, a search section that searches a travel route on which the movable body travels with use of the matching data based on the current position information and the destination information, and a delivery controller that distributes a matching mesh information including the point information and the segment information that represent the road corresponding to the searched travel route and a display mesh information

corresponding to an area other than the area represented by the matching mesh information together with an information for the travel route to the terminal unit.

29. The map information processing system according to claim 23 for displaying the traveling state of the movable body on the display of the terminal unit connected to the  
5 server unit that stores the map information over the network in a manner capable of sending/receiving various information,

wherein the map information has the matching data including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, the segment information that has the unique  
10 segment information and connects the pair of point information, representing the road with the point information and the segment information, and including a plurality of matching mesh information divided into predetermined areas, and a display data including an element data for an element constituting a map of a predetermined area corresponding to the matching data,

15 wherein the terminal unit has the display, a current position information generating section that generates a current position information for a current position of the movable body, a destination information generator that generates a destination information for a destination to which the movable body travels, and

wherein the server unit has a storage that stores the map information, an  
20 information acquiring section that acquires the current position information and the destination information, a search section that searches a travel route on which the movable body travels with use of the matching data based on the current position information and the destination information, and a delivery controller that distributes a matching mesh information including the point information and the segment information that represent the  
25 road corresponding to the searched travel route and a display mesh information corresponding to an area other than the area represented by the matching mesh information together with an information for the travel route to the terminal unit.

30. A map information processing system, comprising:  
a map information processing device , comprising:

a map information acquiring section that acquires at least a point information out of a map information from a recording medium that stores the map information including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, the point information further having a flag information that shows a relation of the point information with other point information according to the determination whether the represented points are identical or not and represents the road arrangement; and

a coordinates matching section that recognizes the relation of the point information with other point information based on the flag information of the point information acquired by the map information acquiring section and recognizes the road arrangement,

the system, further comprising:

a terminal unit that acquires the road arrangement recognized by the map information processing device over a network.

31. A map information processing system, comprising:

a map information processing device,

wherein the map information processing device performs a processing on a map information being stored in a storage, including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, and

wherein the point information has a flag information showing a relation with other point information according to the determination whether the represented points are identical or not and representing the road arrangement;

the map information processing device, further comprising:

a map information acquiring section that acquires at least the point information

out of the map information; and

a coordinates matching section that recognizes the relation of the point information with other point information based on the flag information of the point information acquired by the map information acquiring section and recognizes the road arrangement,

the system, further comprising:

a terminal unit that acquires the road arrangement recognized by the map information processing device over a network.

32. A map information processing system, comprising:

a map information processing device, comprising a search section that searches the travel route based on the road arrangement recognized by the coordinates matching section; and

a terminal unit that acquires a travel route searched by the map information processing device over a network.

33. The map information processing system according to claim 22 for processing the map information stored in the storage, the map information including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, and the segment information that has the unique segment information and connects the pair of point information, and representing the road with the point information and the segment information,

wherein the point information has a flag information showing a relation with other point information according to the determination whether the represented points are identical or not and representing the road arrangement,

the map information processing system, further comprising:

a map information processing device that recognizes the road arrangement by recognizing the relation of the point information with other point information based on the flag information; and

the terminal unit that acquires the road arrangement recognized by the map information processing device over the network.

34. The map information processing system according to claim 23 for processing the map information stored in the storage, the map information including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, and the segment information that has the unique  
5 segment information and connects the pair of point information, and representing the road with the point information and the segment information,

wherein the point information has a flag information showing a relation with other point information according to the determination whether the represented points are identical or not and representing the road arrangement,

10 the map information processing system, further comprising:

a map information processing device that recognizes the road arrangement by recognizing the relation of the point information with other point information based on the flag information; and

15 the terminal unit that acquires the road arrangement recognized by the map information processing device over the network.

35. The map information processing system according to claim 33, comprising a search section that searches a travel route based on the road arrangement recognized by the map information processing device.

36. The map information processing system according to claim 34, comprising a  
20 search section that searches a travel route based on the road arrangement recognized by the map information processing device.

37. The map information processing system according to claim 35, wherein the map information processing device has the search section.

38. The map information processing system according to claim 36, wherein the map  
25 information processing device has the search section.

39. The map information processing system according to any one of claims 33, wherein the terminal unit includes a map matching section that performs matching between the map information and a current position.

40. The map information processing system according to any one of claims 34,



wherein the terminal unit includes a map matching section that performs matching between the map information and a current position.

41. A map information processing method for displaying a current position overlaid onto a map on a display, comprising the steps of:

5           acquiring a current position information for the current position;

          correcting the current position information so that the current position based on the acquired current position information is on a road represented by a point information and a segment information of a matching data including the plurality of point information that has a coordinates information and a unique point information and represents  
10       predetermined points and a segment information that has a unique segment information and connects the pair of point information; and

          displaying the road based on the point information and the segment information on the display to display the map on the display, and overlaying the current position corrected by the correction section onto the displayed road on the display.

15       42. A map information processing method executed by a computing section for displaying a current position overlaid onto a map on a display of a terminal unit connected to a server unit that stores a map information over a network in a manner capable of sending/receiving various information,

          the map information processing method executed by the computing section,  
20       comprising the steps of:

          generating a current position information for a current position at the terminal unit;

          acquiring the current position information at the server unit from the terminal unit over the network;

25       correcting the current position information at the server unit so that the current position is on a road represented by a point information and a segment information of a matching data of the map information including the plurality of point information that has a coordinates information and a unique point information and represents predetermined points and a segment information that has a unique segment information and connects the

pair of point information;

acquiring the corrected current position information and the matching data at the terminal unit from the server unit over the network; and

displaying the represented road based on the point information and the segment  
 5 information of the acquired matching data on the display of the terminal unit, and  
 overlaying the acquired and corrected current position information onto the displayed road  
 on the display.

43. A map information processing method executed by a computing section for and  
 displaying a current position overlaid onto a map on a display of a terminal unit connected  
 10 to a server unit that stores a map information over a network in a manner capable of  
 sending/receiving various information,

the map information processing method executed by the computing section,  
 comprising the steps of:

generating a current position information for a current position at the terminal  
 15 unit;

acquiring a matching data of the map information including a plurality of point  
 information that has a coordinates information and a unique point information and  
 represents predetermined points, and a segment information that has a unique segment  
 information and connects the pair of point information, and representing a road with the  
 20 point information and the segment information, at the terminal unit from the server unit  
 over the network;

correcting the current position information so that the current position is on the  
 road represented by the point information and the segment information of the acquired  
 matching data at the terminal unit; and

25 displaying the road based on the point information and the segment information  
 of the matching data on the display and overlaying the corrected current position  
 information onto the displayed road on the display.

44. The map information processing method according to claim 41 for distributing  
 the map information by a computing section over a network,

wherein the map information has the matching data including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, and the segment information that has the unique segment information and connects the pair of point information, and representing the road with the point information and the segment information, and a display data including an element data for an element constituting the map of a predetermined area corresponding to the matching data,

the map information processing method executed by the computing section, comprising the steps of:

10 recognizing a request information for requesting the distribution of at least one of the matching data and the display data; and

distributing at least one of the matching data and the display data over the network based on the recognized request information.

45. The map information processing method according to claim 41 for distributing  
15 the map information by a computing section over a network to provide the traveling state of a movable body with use of the map information,

wherein the map information has the matching data including the plurality of point information that has the coordinates information and the unique point information and represents the predetermined points, the segment information that has the unique  
20 segment information and connects the pair of point information, representing the road with the point information and the segment information, and including a plurality of matching mesh information divided into predetermined areas, and a display data including an element data for an element constituting the map of a predetermined area corresponding to the matching data,

25 the map information processing method executed by the computing section, comprising the steps of:

acquiring a current position information for a current position of the movable body and a destination information for a destination to which the movable body travels;

searching a travel route on which the movable body travels with use of the

matching data based on the current position information and the destination information;  
and

distributing a matching mesh information including the point information and the segment information that represent the road corresponding to the searched travel route and  
5 a display mesh information corresponding to an area other than the area represented by the matching mesh information together with information for the travel route over the network.

46. The map information processing method according to claim 41 for processing the map information including the plurality of point information that has the coordinates  
10 information and the unique point information and represents the predetermined points, and the segment information that has the unique segment information and connects the pair of point information, and representing the road with the point information and the segment information,

wherein the point information has a flag information showing a relation with  
15 other point information according to the determination whether the represented points are identical or not and representing the road arrangement,

the map information processing method, comprising the step of recognizing the road arrangement by recognizing the relation of the point information with other point information based on the flag information.

20 47. The map information processing method according to claim 46, comprising the step of recognizing the road arrangement by recognizing the relation of the point information with other point information based on the flag information of the map information stored in a recording medium storing the map information.

48. A map information processing program executing a map information processing  
25 method by a computing section,

the method, comprising the steps of:

acquiring a current position information for a current position;

correcting the current position information so that the current position based on the acquired current position information is on a road represented by a point information

and a segment information of a matching data including the plurality of point information that has a coordinates information and a unique point information and represents predetermined points and a segment information that has a unique segment information and connects the pair of point information; and

5            displaying the road based on the point information and the segment information on the display to display the map on the display, and overlaying the current position corrected by the correction section onto the displayed road on the display.

49.        A map information processing program executing a map information processing method for displaying a current position overlaid onto a map on a display of a terminal  
10        unit connected to a server unit that stores a map information over a network in a manner capable of sending/receiving various information, the program being executed by a computing section,

             the map information processing method executed by the computing section, comprising the steps of:

15            generating a current position information for the current position at the terminal unit;

             acquiring the current position information at the server unit from the terminal unit over the network;

             correcting the current position information at the server unit so that the current  
20        position is on a road represented by a point information and a segment information of a matching data of the map information including the plurality of point information that has a coordinates information and a unique point information and represents predetermined points and a segment information that has a unique segment information and connects the pair of point information;

25            acquiring the corrected current position information and the matching data at the terminal unit from the server unit over the network; and

             displaying the represented road based on the point information and the segment information of the acquired matching data on the display of the terminal unit, and overlaying the acquired and corrected current position information onto the displayed road

on the display.

50. A map information processing program executing a map information processing method for and displaying a current position overlaid onto a map on a display of a terminal unit connected to a server unit that stores a map information over a network in a manner capable of sending/receiving various information, the program being executed by

a computing section,  
the map information processing method executed by the computing section, comprising the steps of:

generating a current position information for a current position at the terminal unit;

acquiring a matching data of the map information including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, at the terminal unit from the server unit over the network;

correcting the current position information so that the current position is on the road represented by the point information and the segment information of the acquired matching data at the terminal unit; and

displaying the road based on the point information and the segment information of the matching data on the display and overlaying the corrected current position information onto the displayed road on the display.

51. A recording medium storing a map information processing program in a manner readable by a computing section, the program executing a map information processing method by a computing section,

the method, comprising the steps of:

acquiring a current position information for the current position;

correcting the current position information so that the current position based on the acquired current position information is on a road represented by a point information

and a segment information of a matching data including the plurality of point information that has a coordinates information and a unique point information and represents predetermined points and a segment information that has a unique segment information and connects the pair of point information; and

5            displaying the road based on the point information and the segment information on the display to display the map on the display, and overlaying the current position corrected by the correction section onto the displayed road on the display.

52.        A recording medium storing a map information processing program in a manner readable by a computing section, the program executing a map information processing  
10        method for displaying a current position overlaid onto a map on a display of a terminal unit connected to a server unit that stores a map information over a network in a manner capable of sending/receiving various information, the program being executed by a computing section,

             the map information processing method executed by the computing section,  
15        comprising the steps of:

             generating a current position information for a current position at the terminal unit;

             acquiring the current position information at the server unit from the terminal unit over the network;

20        correcting the current position information at the server unit so that the current position is on a road represented by a point information and a segment information of a matching data of the map information including the plurality of point information that has a coordinates information and a unique point information and represents predetermined points and a segment information that has a unique segment information and connects the  
25        pair of point information;

             acquiring the corrected current position information and the matching data at the terminal unit from the server unit over the network; and

             displaying the represented road based on the point information and the segment information of the acquired matching data on the display of the terminal unit, and

overlaying the acquired and corrected current position information onto the displayed road on the display.

53. A recording medium storing a map information processing program in a manner readable by a computing section, the program executing a map information processing method for and displaying a current position overlaid onto a map on a display of a terminal unit connected to a server unit that stores a map information over a network in a manner capable of sending/receiving various information, the program being executed by a computing section,

the map information processing method executed by the computing section, comprising the steps of:

generating a current position information for a current position at the terminal unit;

acquiring a matching data of the map information including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, at the terminal unit from the server unit over the network;

correcting the current position information so that the current position is on the road represented by the point information and the segment information of the acquired matching data at the terminal unit; and

displaying the road based on the point information and the segment information of the matching data on the display and overlaying the corrected current position information onto the displayed road on the display.

54. A map information processing program executing a map information processing method for distributing a map information by a computing section over a network, the program being executed by a computing section,

wherein the map information has a matching data including a plurality of point information that has a coordinates information and a unique point information and



represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, and a display data including an element data for an element constituting the map of a predetermined area corresponding to the matching data,

the map information processing method executed by the computing section, comprising the steps of:

recognizing a request information for requesting the distribution of at least one of the matching data and the display data; and

distributing at least one of the matching data and the display data over the network based on the recognized request information.

55. A recording medium storing a map information processing program in a manner readable by a computing section, the program executing a map information processing method for distributing a map information by a computing section over a network, the program being executed by a computing section,

wherein the map information has a matching data including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, and a display data including an element data for an element constituting the map of a predetermined area corresponding to the matching data,

the map information processing method executed by the computing section, comprising the steps of:

recognizing a request information for requesting the distribution of at least one of the matching data and the display data; and

distributing at least one of the matching data and the display data over the network based on the recognized request information.

56. A map information processing program executing a map information processing

method for distributing the map information by a computing section over a network to provide the traveling state of a movable body with use of the map information, the program being executed by the computing section,

wherein a map information has a matching data including a plurality of point  
 5 information that has a coordinates information and a unique point information and represents predetermined points, a segment information that has a unique segment information and connects the pair of point information, representing a road with the point information and the segment information, and including a plurality of matching mesh information divided into predetermined areas, and a display data including an element data  
 10 for an element constituting the map of a predetermined area corresponding to the matching data,

the map information processing method executed by the computing section, comprising the steps of:

acquiring a current position information for a current position of the movable  
 15 body and a destination information for a destination to which the movable body travels;

searching a travel route on which the movable body travels with use of the matching data based on the current position information and the destination information; and

distributing a matching mesh information including the point information and the  
 20 segment information that represent the road corresponding to the searched travel route and a display mesh information corresponding to an area other than the area represented by the matching mesh information together with information for the travel route over the network.

57. A recording medium storing a map information processing program in a manner  
 25 readable by a computing section, the program executing a map information processing method for distributing the map information by a computing section over a network to provide the traveling state of a movable body with use of the map information, the program being executed by the computing section,

wherein a map information has a matching data including a plurality of point

information that has a coordinates information and a unique point information and represents predetermined points, the segment information that has a unique segment information and connects the pair of point information, representing a road with the point information and the segment information, and including a plurality of matching mesh information divided into predetermined areas, and a display data including an element data for an element constituting the map of a predetermined area corresponding to the matching data,

the map information processing method executed by the computing section, comprising the steps of:

10        acquiring a current position information for a current position of the movable body and a destination information for a destination to which the movable body travels;

          searching a travel route on which the movable body travels with use of the matching data based on the current position information and the destination information; and

15        distributing a matching mesh information including the point information and the segment information that represent the road corresponding to the searched travel route and a display mesh information corresponding to an area other than the area represented by the matching mesh information together with information for the travel route over the network.

20        58.        A map information processing program executing a map information processing method for processing a map information including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, the program being executed by a computing section,

          wherein the point information has a flag information showing a relation with other point information according to the determination whether the represented points are identical or not and representing the road arrangement,

the map information processing method, comprising the step of recognizing the road arrangement by recognizing the relation of the point information with other point information based on the flag information.

59. A map information processing program executing a map information processing method by a computing section, the method comprising the step of recognizing the road arrangement by recognizing the relation of the point information with other point information based on the flag information of the map information stored in a recording medium storing the map information.

60. A recording medium storing a map information processing program in a manner readable by a computing section, the program executing a map information processing method for processing a map information including a plurality of point information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, the program being executed by a computing section,

wherein the point information has a flag information showing a relation with other point information according to the determination whether the represented points are identical or not and representing the road arrangement,

20 the map information processing method, comprising the step of recognizing the road arrangement by recognizing the relation of the point information with other point information based on the flag information.

61. A recording medium storing a map information processing program in a manner readable by a computing section, the program executing a map information processing method by a computing section, the method comprising the step of recognizing the road arrangement by recognizing the relation of the point information with other point information based on the flag information of the map information stored in a recording medium storing the map information.

62. A recording medium storing a map information including a plurality of point

information that has a coordinates information and a unique point information and represents predetermined points, and a segment information that has a unique segment information and connects the pair of point information, and representing a road with the point information and the segment information, wherein the point information has a flag information showing a relation with other point information according to the determination whether the represented points are identical or not and representing the road arrangement.

63. A recording medium storing the map information according to claim 62, wherein the flag information is represented by two-bit information.
- 10 64. A recording medium storing the map information according to claim 62, wherein the flag information represents either one of the information indicating that the point information are identical and the information indicating that the point information are not identical.